IN THE CLAIMS:

Please amend claims 26, 28, 33 and 37, and cancel claims 1-22 as follows:

1-22 (Cancelled).

23. (Original) An integrated optical assembly, comprising:

a fiber collimator that redirects and collimates a light beam from an optical source input, creating a collimated light beam;

at least two focusing optical subassemblies, the at least two focusing optical subassemblies being aligned along a common axis; and

an optically transparent block that receives the collimated light beam from the fiber collimator, the optically transparent block having a top side coated to act as a reflective mirror and a bottom side including thin film filters (TFFs), each with a different passband wavelength and each being positioned over each focusing optical subassembly, the top side being the side opposite to at least one of the fiber collimator and the focusing optical subassemblies,

wherein the collimated light beam travels in a zig-zag fashion within the optically transparent block, wavelength components of the collimated light beam being separated from each other by the TFFs with matching passband wavelengths and focused by the focusing optical subassemblies below the TFFs.

24. (Original) The integrated optical assembly of claim 23, further comprising

a connector housing that receives a fiber optical connector; and

a ledge structure adapted for positioning a printed circuit board, the printed circuit board

being parallel to, and at a distance from, aspheric lenses of the focusing optical subassemblies when positioned in the ledge structure.

25. (Original) The integrated optical assembly of claim 24, wherein the integrated optical assembly is manufactured using injection molding of an optically transparent plastic.

26. (Currently Amended) The integrated optical assembly of claim 24, further comprising an optical multiplexer, wherein the connector housing ~~designed to receive~~ <u>receives</u> a duplex optical fiber, and the printed circuit board being also parallel to, and at a distance from, aspheric lenses of collimating optical subassemblies of the optical multiplexer when positioned in the ledge structure.

27. (Original) The integrated optical assembly of claim 26, wherein the integrated optical assembly is manufactured using injection molding of an optically transparent plastic.

28. (Currently Amended) The integrated optical assembly of claim 26, wherein ~~the set of~~ aspheric lenses ~~belonging to~~ <u>of</u> the focusing optical subassemblies have a different prescription than ~~the set of~~ aspheric lenses ~~belonging to~~ <u>of</u> the collimating optical subassemblies, and an array of photodetectors and an array of point sources reside on the printed circuit board having different heights.

29. (Original) An optical multiplexer of a zig-zag design, comprising:

a fiber coupler that redirects and couples a light beam with different wavelength components into an optical fiber;

at least two collimating optical subassemblies receiving light beams from different point sources, the at least two collimating optical subassemblies being aligned along a common axis;

an optically transparent block that receives light beams with different wavelength components, the optically transparent block having a top side coated to act as a reflective mirror and a bottom side including thin film filters (TFFs), each with a different passband wavelength and each being positioned over each collimating optical subassembly, the top side being the side opposite to at least one of the fiber coupler and the collimating optical subassemblies, wherein light beams from the point sources travel through the collimating optical subassemblies, the TTFs, the optically transparent block and the fiber coupler into the optical fiber.

30. (Original) The optical multiplexer of claim 29, wherein aspheric lenses for collimating and focusing a light beam diverging from one of the point sources having a particular sized aperture are used to project an image from the point source onto the fiber core with a controlled degree of magnification, which controls the sized aperture of the light beam delivered to the optical fiber and the resulting coupling efficiency.

31. (Original) The optical multiplexer of claim 29, wherein aspheric lenses for collimating and focusing a light beam diverging from one of the point sources having a

particular sized aperture are used to project an image from the point source onto the fiber core with a controlled degree of magnification, which controls the tolerance of the coupling efficiency into the optical fiber to a displacement of the point source.

32. (Original) A mold assembly for fabricating an integrated optical assembly as a single injection-molded part, the integrated optical assembly including a connector housing, an optical de-multiplexer and an optical multiplexer, the mold assembly comprising:

first and second mold halves arranged to mate with each other, forming a draw direction oriented parallel to axes of aspheric lenses of a focusing optical subassembly of the optical de-multiplexer and a collimating optical subassembly of the optical multiplexer, and

a single slider used to form ferrules for a fiber collimator of the optical de-multiplexer and a fiber coupler of the optical multiplexer as well as to form the connector housing, wherein the first mold half is used to shape wedges of the collimating and focusing optical subassemblies and to shape aspheric lenses of the fiber collimator and the fiber coupler, and the second mold half is used to shape total internal reflection surfaces of the fiber collimator and the fiber coupler and to shape the aspheric lenses of the collimating and focusing subassemblies.

33. (Currently Amended) The mold assembly of claim 32, wherein spacers are ~~interested~~ <u>inserted</u> to allow molten plastic to flow through the mold assembly during manufacturing of the integrated optical assembly as a single injection-molded part.

34. (Original) The mold assembly of claim 32, wherein the mold assembly provides a ledge structure to be molded in the single injection-molded part, the ledge structure existing in a plane parallel to the plane tangential to and passing through the apex of each of the aspheric lenses of the collimating and focusing optical subassemblies, the ledge structure allowing a printed circuit board, on which arrays of point sources and photodetectors are mounted, to be inserted and to be parallel, within a few microns of tolerance, to the aspheric lenses of the collimating and focusing optical subassemblies.

35. (Original) An integrated optical subassembly, comprising:

a fiber coupler that redirects and couples a light beam with different wavelength components into an optical fiber;

at least two collimating elements that receives elliptically divergent light beams from edge-emitting lasers, the at least two collimating elements being aligned along a common axis and spaced so that the elliptically divergent light beams become redirected and collimated into circular or nearly circular light beams;

an optically transparent block that receives the circular or nearly circular light beams with different wavelength components, the optically transparent block having a top side coated to act as a reflective mirror and a bottom side including thin film filters (TFFs), each with a different passband wavelength and each being positioned over each collimating element, the top side being the side opposite to at least one of the fiber coupler and the collimating optical subassemblies, wherein the circular or nearly circular

light beams travel through the TTFs, the optically transparent block and the fiber coupler into the optical fiber.

36. (Original) The integrated optical assembly of claim 35, further comprising connector housing that receives a fiber optical connector; and

a ledge structure suitable for positioning a printed circuit board, the printed circuit board being parallel to, and at a distance from, aspheric lenses of the collimating elements when positioned in the ledge structure.

37. (Currently Amended) The integrated optical assembly of claim 36, further comprising an optical de-multiplexer, the connector housing ~~designed to receive~~ receives a duplex optical fiber; and the printed circuit board being also parallel to, and at a distance from, aspheric lenses of focusing optical subassemblies of the optical de-multiplexer when positioned in the ledge structure.

38. (Original) The integrated optical assembly of claim 37, wherein the integrated optical assembly is manufactured using injection molding of an optically transparent plastic.